

Process Specification for the Installation of Solid and Blind Rivets

Engineering Directorate

Structural Engineering Division

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Process Specification for the Installation of Solid and Blind Rivets

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REVISIONS		
VERSION	DESCRIPTION	DATE
--	Original version	5/9/96
A	Revision	5/16/97
B	Revision, Added reference to Sealing PRC, added requirement for written shop procedures, removed revision letter from MIL-STD-403, and other updating.	4/23/01
C	Changed Division name. Identified M&P branch in Section 3.0. Revised section 3.1 (Work Instructions) and moved to section 6.1, restructured section 6, added section 7.0. (Process Qualification) and bumped remaining sections, revised new section 9.0 (Training).	10/2004

D	Retitled section 4.0 (Applicable Documents) to (References), and updated the number and titles of documents in that section. Added a requirement to section 6.2 (General Requirements) that allows technician to shorten rivets to improve installation quality.	2/2007
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1.0 **SCOPE**

This process specification establishes requirements for the installation of solid and blind rivets in flight hardware manufactured by JSC.

2.0 **APPLICABILITY**

This process specification shall be applicable whenever installation of solid and blind rivets is invoked per Section 3.0, "Usage".

3.0 **USAGE**

This process specification shall be called out on the engineering drawing (reference JSC 8500) by using a drawing note. For example:

INSTALL RIVETS PER NASA/JSC PRC-9001.

A drawing note for sealing the rivet during installation normally will follow the appropriate installation note, in accordance with PRC-4004.

If no sealant is required for the design, the engineering drawing shall also read:

USE NO SEALANT.

The sealant and the part numbers for the rivets shall be included in the parts list on the engineering drawing.

Note: A sealant is normally required when riveting aluminum alloys with aluminum rivets unless the materials have good corrosion resistance and are exposed only to benign environments. Designers should get approval from Materials and Processes Branch (ES4) personnel before specifying "no sealant".

4.0 **REFERENCES**

SOP-007.1	<i>Preparation and Revision of Process Specifications</i>
JPR 8500.4	<i>Engineering Drawing System Manual</i>
<u>MIL-STD-403</u>	<i>Preparation for and Installation of Rivets and Screws, Rocket and Missile Structure</i>
NASA/JSC PRC-4004	<i>Process Specification for the Sealing of Joints and Faying Surfaces</i>

5.0 MATERIAL REQUIREMENTS

None.

6.0 PROCESS REQUIREMENTS

6.1 WORK INSTRUCTIONS

All work shall be performed to written procedures. The work instructions shall contain sufficient detail to ensure that the manufacturing process produces consistent, repeatable products that comply with this specification.

For work performed at JSC facilities, these work procedures consist of Detailed Process Instructions (DPI's).

For contracted work, the contractor shall be responsible for preparing and maintaining, and certifying written work procedures that meet the requirements of this specification.

6.2 GENERAL REQUIREMENTS

Installation of solid and blind rivets shall comply with MIL-STD-403, except the sealant specified on the engineering drawing shall be used in place of the sealants specified in MIL-STD-403, or alternately, no sealant may also be specified.

Rivets may be shortened by installer if necessary to achieve a better appearance, as long as the grip size called out on the engineering drawing is still used. The tool to cut off the rivet must be specified in the written work procedures and must be a tool specifically designed and sold for that task.

7.0 PROCESS QUALIFICATION

None required.

8.0 PROCESS VERIFICATION

Process verification for Installation of solid and blind rivets shall comply with MIL-STD-403.

9.0 TRAINING AND CERTIFICATION OF PERSONNEL

This process shall be performed by personnel qualified through training or experience and certified by their supervision to conduct the process.

10.0 DEFINITIONS

None.